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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,448	04/08/2002	Yasutaka Ito	217551US2PCT	4361

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EXAMINER

LAM, CATHY FONG FONG

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/019,448	Applicant(s) ITO ET AL.	
	Examiner Cathy Lam	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17, 18, 20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17, 18, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

In view of the amendment and remarks filed on July 22nd 2004, the pending claims are unpatentable as following:

Claim Rejections - 35 USC § 112

1. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 17, the phrase "comprising one of a carbide ceramic and a nitride ceramic" is vague and indefinite, as it is not clear whether or not applicant is claiming both carbide and nitride ceramic compound, or either carbide or nitride ceramic? Clarification is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17-18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwa (US 6475606) in view of Bogdanski et al (US 6150636) or Soma et al (US 5231690).

Niwa discloses a ceramic heater comprised of a ceramic substrate and a resistance heating element.

The ceramic substrate is an inorganic material which comprised of nitride ceramic material and carbon (col 3 L 64-67 & col 4 L 8-9). The ceramic substrate has a

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thickness not exceeding 25 mm and a diameter of not less than 200 mm (col 3 L 28-30 & L 49-52). The resistance heating element is disposed on the bottom face of the ceramic substrate (col 6 L 41-43). The examiner takes the position that the bottom face is the first surface of the ceramic substrate and the heating face is opposite to first surface. From Fig. 3 the ceramic heater has a disc shape and has a concentric heating pattern (col 10 L 60-64)..

Niwa is silent about the circumference of the heating element is within 35mm from the side face of the ceramic substrate.

Bogdanski teaches an electric hotplate comprised of a circular shape ceramic substrate and a resistance heating element (col 6 L 20-22 & L 34-35).

Bogdanski further teaches that the heating element extends up to a distance from the outer rim of the ceramic substrate, preferably over the entire upper cooking surface of the electric hotplate (col 6 L 46-50).

Soma also teaches a heater comprised of an inorganic substrate and a resistance heating element (col 3 L 9-14 & L 49-51).

The resistance heating element (7) is formed within the silicon nitride substrate (6) and over the entire discoidal substrate (6) (col 6 L 10-12 & Fig. 3).

In view of the prior art teachings, it would have been obvious that a heater would having a heating element that is at least formed up to the rim of the ceramic substrate or over the entire ceramic substrate, because it would give a more uniform heating and cooling to the entire ceramic substrate.

Response to Arguments

3. Applicant's arguments filed on July 22nd 2004 have been fully considered but they are not persuasive. Regarding to the resistance heating element is within 35 mm from the edge of the ceramic substrate, Applicant in the remarks raises the following issues:

A. The present invention prevents the reduction of the peripheral temperature of the ceramic substrate.

B. The temperature difference in the heating face can be reduced and the generation of cracks caused by a rapid increase and decrease in temperature can be prevented.

C. In the Examples shown that the resistance heating element area and the outer circumference of the ceramic substrate is 0.5 to 35mm and the temperature difference in the heating face is as small as 2°C to 4°C.

In respond to the above issues:

All A, B, & C are the advantages of having the resistance heating element formed close to the edge (or rim) of the ceramic substrate. Both Bogdanski and Soma teach the resistance heating elements extend up to the rim of the ceramic substrate, preferably over the entire cooking surface (Bogdanski col 6 L 46-50 & Soma col 6 L 11-12). Niwa is silent about the resistance heating element being printed up to the edge of the ceramic substrate (or over the entire substrate surface), but in view of the figures Niwa's resistance heating element is formed over the entire surface of the ceramic substrate.

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Since all three prior art explicitly and implicitly teach the resistance heating elements are formed over the entire surface, thus the advantages (ie. A, B, & C) of the present invention would be met. Therefore, 103 rejection is sustained.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Cathy Lam
Primary Examiner
Art Unit 1775

cfl
September 23, 2004